

WO 2004/113066 A1

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
29 December 2004 (29.12.2004)

PCT

(10) International Publication Number
WO 2004/113066 A1

(51) International Patent Classification⁷: **B32B 15/08**,
27/32, C08J 5/12

Tilleuls, F-95640 BRIGNANCOURT (FR). PAC, Jiri
[CZ/CZ]; Cernohorska 27, 62100 BRNO (CZ).

(21) International Application Number:
PCT/IB2004/002064

(74) Agents: **BERNASCONI, Jean et al.**; Cabinet Lavoix, 2,
Place d'Estienne d'Orves, F-75441 Paris (FR).

(22) International Filing Date: 22 June 2004 (22.06.2004)

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03291534.0 23 June 2003 (23.06.2003) EP

(71) Applicants (*for all designated States except US*): **USINOR** [FR/FR]; Immeuble "La Pacific", La Défense 7, 11-13 Cours Valmy, F-92800 PUTEAUX (FR). **THYSSEN KRUPP STAHL AG** [DE/DE]; August-Thyssen-Strasse 1, 40211 DUSSELDORF (DE).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **CALVEZ, Cédric** [FR/FR]; 93 RUE DOCTEUR SUREAU, F-93160 NOISY LE GRAND (FR). **GAURIAT, Antoine** [FR/FR]; 23 RUE DU CHATEAUFORT, F-92340 BOURG LA REINE (FR). **SCHMIT, Francis** [FR/FR]; 541 DU VAL, F-60250 ANSACQ (FR). **NAZIKKOL, Cetin** [DE/DE]; Zechenstrasse 10, 47169 DUISBURG (DE). **FILTHAUT, Christoph** [DE/DE]; Siegelstrasse 5a, 44227 DORTMUND (DE). **SMITH, Roland** [FR/FR]; 14, Place des

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A METAL-CURED POLYETHYLENE-METAL LAMINATE

(57) Abstract: The invention concerns a metal laminate comprising between two outer metal sheets an adhesive polymer layer, characterised in that the adhesive polymer layer comprises cross-linked polyethylene or a copolymer thereof, grafted with an unsaturated carboxylic acid an anhydride and/or an ester derivative thereof. The invention further concerns a process for the manufacture of such a metal laminate and the use of such metal laminates for the manufacture of automotive body parts.